REMARKS

Reconsideration of the present application is requested. Claims 1-43 are pending.

REJECTION UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

Beginning on page 2 of the Office Action, the Examiner rejects claims 1-42 under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement. With respect to claim 1, the Examiner alleges that the "new language the transaction information includes...requesting master unit" does not have any support from the originally filed specification. Applicants traverse this rejection as follows.

There is no "*in haec verba* requirement," to comply with 35 U.S.C. § 112, first paragraph.   MPEP § 2163(I)(B), see also, MPEP § 2163.02 ("The subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement."). Newly added limitations need only be supported in the specification through express, implicit, or inherent disclosure. *Id.*

Applicants direct the Examiner's attention to paragraphs [0027-0028] and [0038-0039] of the originally filed specification. In at least one example embodiment, the "transaction information," of claim 1 reads on, for example, at least the target information discussed in these portions of the Specification. Therefore, "transaction information," is clearly and sufficiently described in the

originally filed specification. The problematic portions of claims 14, 19 and 26 are also believed to be sufficiently described by these portions of the specification.

The Examiner further states, "Paragraph [0007]...is not directed to Applicants' invention[, but] description of prior art." According to MPEP § 2163(I), "[to] satisfy the written description requirement, *a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention.* [citation omitted]." As the Examiner will appreciate, paragraph [0007], while in the Background, is part of the patent specification and thus eligible to provide support for claimed subject matter.

With respect to claim 40, Applicants again note that there is no "*in haec verba* requirement," to comply with 35 USC § 112, first paragraph. MPEP § 2163(I)(B). Although the specification does not explicitly state that, "the arbiter does not perform the arbitration based on priorities pre-assigned to the master units and does not perform the arbitration based on priorities received from the master units," as required by claim 40, such a feature is implicit in the Specification in that the Specification does not disclose that the arbiter utilizes pre-assigned priorities or priorities received from the master units. Accordingly, the subject matter of claim 40 is sufficiently supported by the Specification.

With regard to claims 41 and 42, Applicants have amended these claims taking into account the Examiner's comments.

Support for claim 41 may be found, for example, in paragraph [0028] (page 7, line 18 – page 8, line 8) of the Specification, which states in-part:

> The masters 110, 120, 130 receiving bus ownership, drive the desired information regarding the target slave (for example, HADDRN). The arbiter 140 utilizes this information and associated target slave information in order to perform the act of arbitration;

and in paragraph [0038] (page 12, lines 2-8), which states in-part:

> At step S330, the arbiter receives drive information from all requesting master units. At step 340, based on the bus drive information and the status information of the target slave, a particular master is selected by the arbiter.

> In one example embodiment, "the information on the target slave,"

recited in claim 41 reads on the target or drive information HADDRN for the target slave.

Support for claim 42 may be found in paragraph [0027] (page 7, lines 4-17), which states in-part:

> The arbiter 140 provides a pseudo grant signal HGRANT to each of the N requesting master units 110, 120, 130. The HGRANT signal is a signal to grant bus ownership to a master. Each of the N master units 110, 120, 130 then provides target information to the arbiter 140 for the arbiter 140 to perform arbitration. In the exemplary embodiment illustrated in Figure 5, the target information is signal HADDRN. The arbiter 140 performs arbitration and indicates data transfer is ready to occur by providing each master 110, 120 with a ready signal, HREADYN.

In at least one example embodiment, the "transaction information," reads on, for example, at least the target or drive information HADDRN.

For at least the foregoing reasons, withdrawal of the current rejections under 35 U.S.C. § 112, first paragraph is requested.

PRIOR ART REJECTIONS

Rejections under 35 U.S.C. § 103

The Examiner rejects claims 1-10 and 13-43 under 35 U.S.C. § 103(a) as allegedly unpatentable over U.S. Patent No. 6,393,506 ("*Kenny*"). This rejection is respectfully traversed.

In responding to Applicant's argument that *Kenny* fails to disclose or fairly suggest at least, "the arbiter performs arbitration based on the information on the target slave unit for each requesting master unit by using the information on the target slave unit for each requesting master unit to determine a priority of bus ownership for the requesting master units," the Examiner states (emphasis in original):

> As clearly discussed above in the 103 Rejection, by using re-designated virtual channels and priorities for each module, the arbiter 4 does not have to arbitrate between requesting masters having different priority, and assign a virtual channel to a requesting master according to its priority. However, it is important to note that arbitration must also depend from the information from the requesting master. The information from the master includes address of the target and/or priority of the target.

Office Action at 14.

But, if the arbiter 4 of *Kenny* need not arbitrate between requesting masters (as suggested by the Examiner), then the arbiter 4 of *Kenny* does not "*perform arbitration* based on the information on the target slave unit for each requesting master unit by using the information on the target slave unit for each requesting master unit *to determine a priority of bus ownership for the requesting master units*," as required by claim 1.

Moreover, even assuming *arguendo* that the arbitration performed by the arbiter 4 of *Kenny* depends from the address of the target and/or priority of the target from the requesting master as suggested by the Examiner (which Applicant does not admit), such information still does not constitute the "transaction information," of claim 1 because this information is received *prior to the grant of the virtual channel,* but not "*in response to,*" the grant of the virtual channel. See, *Kenny* at 6:63 – 7:4.

Thus, assuming the grant of the virtual channel in *Kenny* is similar to the "pseudo-grant signals," in claim 1 (which Applicant does not admit) and the arbitration performed by the arbiter 4 of *Kenny* also depends from the address of the target and/or priority of the target from the requesting master (which Applicant also does not admit), *Kenny* still fails to disclose or fairly suggest "*at least one interface* for generating pseudo-grant signals to all requesting master units beginning at the same time *and for receiving transaction information from all requesting master units in response to the pseudo-grant signals,*" as required by claim 1.

Moving forward, in rejecting claim 1 the Examiner alleges that the arbiter 4 of *Kenny* "receives transaction information from all requesting master units *in response to* the pseudo-grant signals," relying upon the disclosure that arbiter 4 returns to its initial state 47 to wait for the next ADD/REQ signal after asserting signal GNT CHNLA from each of the requesting master units. Office Action at 7. Applicants disagree with this conclusion.

Referring to FIG. 6 of *Kenny*, upon detecting the ADD/REQ signal from the master module A, the arbiter 4 asserts grant channel A signal GNT CHNLA on address bus 3 to assign a virtual channel to master module A. *Kenny* at 7:34-7:37. After transmitting the virtual grant channel A signal GNT CHNLA, arbiter 4 returns to its initial state 47 to wait for the next ADD/REQ signal. *Id.* at 41-42. But, the next ADD/REQ signal received by the arbiter 4 is independent of – not in response to – the grant channel A signal GNT CHNLA signal from the arbiter 4. Thus, contrary to claim 1, the arbiter 4 issues a virtual channel grant (grant channel A signal) GNT CHNLA in response to a ADD/REQ signal from a master module 4, but does not receive "*transaction information from all requesting master units* <u>*in response to the pseudo-grant signals.*</u>"

For at least the foregoing reasons, *Kenny* fails to disclose or fairly suggest at least one interface for, "receiving transaction information from all requesting master units in response to the pseudo-grant signals," as required by claim 1. Because Kenny fails to disclose or fairly suggest all features of claim 1, *Kenny* fails to render claim 1 obvious. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974) (obviousness requires a suggestion of all limitations in a claim).

On page 14 of the Office Action, the Examiner goes on to state in-part (<u>emphasis</u> in original):

> ...the <u>only difference</u> between the claimed subject matter [and] that of Kenny is that Kenny does not explicitly disclose that the pseudo-grant signal is provided to each requesting master unit <u>at the same time</u>.

While claim 1 does differ from *Kenny* in that *Kenny* does not disclose "generating pseudo-grant signals to all requesting master units beginning at *the same time*," claim 1 also differs from *Kenny* in other ways as shown above.

Moreover, the Examiner argues (emphasis in original):

> ...it would have been obvious to one of ordinary skill in the art at the time of the invention was made to generate pseudo-grant signals GNT CHLNA, GNTCHLNB, and GNTCHLNC to all requesting masters beginning at the same time, because each channel for a specific requesting master unit has already been pre-assigned[...and] it is clear that arbitration latency can be further reduced...

But, *Kenny* actually teaches away from such a modification (i.e., issuing virtual channel grant signals at the same time) because *Kenny* discloses issuing virtual grant signals sequentially. As shown in FIG. 9 of *Kenny*, the signals GRANT CHNLA, GRANT CHNLB and GRANT CHNLC are issued sequentially at times t_1, t_3, and t_5, with each subsequent virtual channel grant being issued only after the arbiter 4 receives an ACK CHNLX signal corresponding to the previous virtual channel grant signal. Accordingly, *Kenny* actually teaches away from issuing virtual channel grant signals GRANT CHNLA, GRANT CHNLB and GRANT CHNLC at the same time. Because *Kenny* teaches away from the suggested modification, the Examiner's modification is improper, and claim 1 is not rendered obvious over *Kenny*. MPEP § 2145(X)(D)(2) ("It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983).)

Kenny fails to render claims 14, 26 and 43 obvious for at least reasons somewhat similar to those set forth above with regard to claim 1. Claims 2-10, 13, 15-18, 20-25 and 27-42 are patentable over *Kenny* at least by virtue of their dependency from their respective independent claims.

Further Prior Art Rejections

Claims 11-12 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Kenny as discussed above, and further in view of the Examiner's citation of Wikipedia. Applicant respectfully traverses this rejection.

Although Applicants do not necessarily agree that Wikipedia is sufficient teaching to establish that a particular teaching was well-known in the art at the time of the invention because it is an open content encyclopedia and the contents of Wikipedia can be edited by anyone, claims 11 and 12 are patentable by virtue of their dependency from claim 1. Thus, withdrawal of this rejection is requested.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of the pending claims in connection with the present application is earnestly solicited.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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